

# INTO Y7 — MEASUREMENT...

# Converting Units

@whisto\_maths

## What do I need to be able to do?

By the end of this unit you should be able to:

- Recognise metric measures
- Convert metric measures
- Calculate with metric measures
- Understand Miles and Kilometre relationships
- Recognise Imperial measures and conversions

## Keywords

**Length:** the distance from one point to another

**Mass:** a measure of how much matter is in an object

**Capacity:** the amount an object can contain (normally liquids)

**Volume:** the amount of 3-dimensional space an object takes up (units of length cubed)

**Convert:** to change a value or expression from one value to another.

**Imperial:** a system of weights and measures originally developed in England

**Metric:** a system of measuring that replaced the imperial system to fall in line with the rest of Europe.

**Proportion:** values of two items that increase in the same ratio

## Metric measures

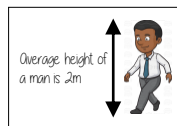
**Length** Common units of length or distance are

**Millimetres (mm)** – "Milli" prefix means one thousandth or  $\div 1000$

**Centimetres (cm)** – "Centi" prefix means one hundredth or  $\div 100$

**Metres (m)**

**Kilometres (km)** – "kilo" prefix means a thousand  $\times 1000$

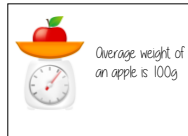


## Mass (Weight)

**Grams (g)**

**Kilograms (kg)** – "kilo" prefix means a thousand  $\times 1000$

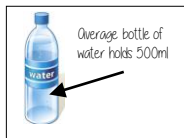
**Tonnes (t)**



## Capacity

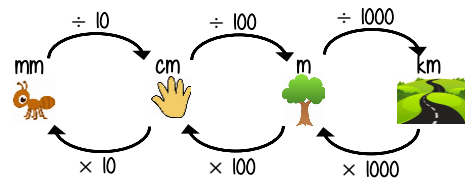
**Millilitre (ml)** – "Milli" prefix means one thousandth or  $\div 1000$

**Litre (l)**

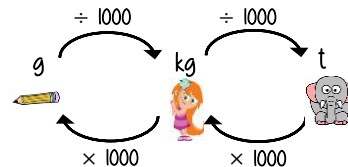


## Metric conversions

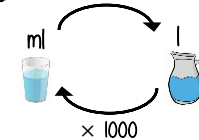
### Length



### Mass



### Capacity



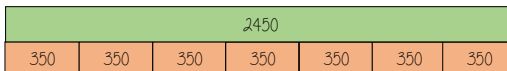
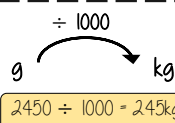
Milli – thousandth  
Centi – hundredth  
Kilo – thousand

## Metric calculations

A package weighs 350g. How much will 7 packages weigh?  
Give your answers in kilograms.



The final weight is in grams



### Calculations tips:

- Do all calculations in the same unit (often the smaller measurement)
- Read for the units of your answer
- Do all conversions of units at the same time
- Represent your image pictorially where possible

## Miles and Kilometres

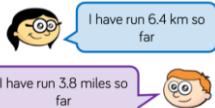
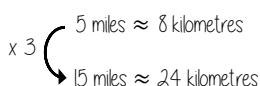
Miles and kilometres are normally used as measures of distance

≈ symbol represents "is approximately equal to"

5 miles ≈ 8 kilometres

### Conversion calculations

How many kilometres is 15 miles?



Ron and Onnie are running a 5-mile race.  
Who has run the furthest?

5 miles ≈ 8 kilometres  $\div 8$   
0.625 mile ≈ 1 kilometre  $\times 64$   
4 miles ≈ 64 kilometre

Ron has 1.2 miles left to run  
Onnie has 1 mile left to run  
Onnie has run the furthest

## Imperial measures

### Length

2.5 cm ≈ 1 inch

1 foot = 12 inches

### Mass

1 pound (lb) = 16 ounces

1 stone = 14 pounds (lbs)

### Capacity

1 gallon = 8 pints



In 1965 Britain converted to the metric system for measurement to fall in line with the rest of Europe. We still use an imperial measurement of miles for distance and speed on our roads.